DRAWINGS

Attached is one replacement drawing sheet to replace page 2 of the drawings, showing FIG. 2 and FIG. 3.

REMARKS

Claims 1-18 remain pending in this application. Claims 1, 7 and 13 are amended for clarity. For example, claims 1, 7 and 13 are amended to clearly recite the relationship between configuration information, configuration commands and configuration elements, wherein the configuration element defines characteristics of the design elements and each configuration element retrieved is associated with at least one design element. Support for these amendments can be found, at least, in paragraphs [0021-22], [0029] and [0039-40].

No new matter is added.

Drawings

FIG. 3 of the drawings is amended to include reference numbers 214(1), 214(2), 216(1) and 216(2), previously omitted. Support for this amendment can be found in FIG. 2. A replacement sheet for page 2 of the drawings is attached. No new matter is added.

Reconsideration of FIG. 3 is respectfully requested.

Specification

Paragraph [0001] of the specification is amended to include application numbers for each of the related and co-filed applications.

Paragraph [0025] is amended to correct references 220 and 222 to 'IN' and 'OUT', respectively, as shown in FIG. 2. Support for this amendment may be found in paragraph [0025] where connectivity of signal nets 220 and 222 match those of signal nets IN and OUT within FIG. 2.

Paragraph [0026] is amended to correct typographical errors in port references 306 and 308, which are amended to port reference 308 and 310, respectively, as shown in FIG. 3.

No new matter is added. Reconsideration of paragraphs [0001], [0025] and [0026] is respectfully requested.

The Examiner asserts an inconsistency between the definition of an electronic design element within paragraph [0002] of the background and the definition of a design element as used within paragraph [0020] of the detailed description. Accordingly, to clarify the definition of design element within the detailed design, paragraph [0020] is amended to state that the design element may also represent one or more of capacitors, transistors and resistors, nets. Each design element, as used within the detailed design, represents an element of a circuit design.

No new matter is added.

The Examiner also requests clarification of the differences between the terms design elements and configuration elements. As taught by paragraph [0021], and shown within the hierarchical model 140 of FIG. 1, a configuration element is used to store configuration information associated with a particular design element. The example of paragraph [0028] teaches that based upon line 1 of the Example Configuration Information of paragraph [0027], the configuration element associated with signal net IN for each instance of cell I0 (e.g., cell instances I1 and I2, FIG. 3) is updated to indicate a rise time of 2.0 picoseconds. Thus, the configuration element stores configuration information pertinent to a particular design element.

As taught by paragraph [0020], configuration tool 122 creates a hierarchical model 140 based upon circuit design 116 in computer memory 104. As exemplified in paragraph [0029], configuration tool 122 matches design element 142 to configuration commands within configuration information 130 to determine which configuration commands apply to design element 142. Configuration tool 122 then stores this applicable configuration information in configuration element 144 within hierarchical model 140. Thus, to illustrate the association between configuration element 144 and design element 142, configuration element 144 is shown within design element 142 of model 140 in FIG. 1.

Applicants thus believe that the relationship between design element and configuration element is appropriately defined within the specification and shown within the drawings. Should the Examiner disagree, the Examiner is requested to provide further information as to the unclear aspects of design elements and configuration elements.

Claim Rejections – 35 U.S.C. § 102

Claims 1-18 stand rejected under 35 U.S.C. § 102(e) as being anticipated by US Patent Number 6,826,732 B2 to Hunt et al. (hereinafter "Hunt"). Respectfully, we disagree.

To anticipate a claim, Hunt must teach every element of the claim and "the identical invention must be shown in as complete detail as contained in the ... claim." *MPEP 2131* citing *Verdegaal Bros. V. Union Oil Co. of California*, 814 F.2d 628, 2 USPQ2d 1051 (Fed. Cir. 1987) and *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 9 USPQ2d 1913 (Fed. Cir. 1989). Hunt does not teach every element of claims 1-18.

As way of background, the immediate application teaches of a system and method for processing and storing configuration information of an electronic circuit design. In particular,

configuration commands of the configuration information are processed to match design elements of the electronic circuit design to one or more of the configuration commands. Information from the matched configuration commands are stored within configuration elements and associated with the matching design element. See for example, paragraph [0021] of the specification. By retrieving configuration elements associated with a particular design element, configuration information pertaining to the design element is obtained without further processing of the configuration commands. See for example, paragraph [0042] of the specification.

On the other hand, Hunt discloses a configuration database associated with a hardware system, the database storing at least one data structure defining a Dial instance and mapping between each of a possible plurality of input values of the Dial instance and a respective one of a corresponding plurality of output values; the plurality of output values control which of a plurality of different possible latch values if placed in a hardware latch to configure the hardware system. The configuration database is accessed to determine an output value for the Dial instance based upon the mapping and an input value for the Dial instance. See Hunt abstract. The configuration specification statement of Hunt is used to specify a Dial that is used to configure one or more latches within a digital design. The Dial is a configuration entity that specifies values for latches, based upon an input to the Dial, thereby configuring the digital design. See Hunt col. 10, lines 15-35 and lines 49-56. That is to say, the configuration statements of Hunt relate to configuration of the 'Dial' configuration entity, and do not relate to design elements of a digital design. The Dial of Hunt is not a design element but is instead used in configuring the hardware system. Accordingly, the configuration statements of Hunt do not include characteristics (e.g., capacitance, rise and fall times, etc.) of one or more design elements of the circuit design. The configuration statements are compiled into a configuration database for use by downstream organizational groups. See Hunt col. 6, lines 45-50.

We understand that the Dial is a configuration concept that does not result in tangible design elements within the digital design. The output value determined by the Dial is loaded into the latch in the hardware system to set the hardware system into a desired configuration. See Hunt col. 3, lines 41-60. Thus, the configuration specification statements of Hunt cannot apply to design elements of a digital design. See also col. 10, lines 43-56 and col. 12, lines 24-30.

Amended claim 1 recites a method for processing configuration information associated with an electronic circuit design, including:

    a) identifying one or more configuration elements from one or more configuration commands of the configuration information;

    b) associating the configuration elements with design elements of the electronic circuit design, the configuration elements defining characteristics of the design elements; and

    c) retrieving, for at least one design element, each configuration element associated with the at least one design element.

As taught by paragraph [0029], configuration tool 122 searches (step a of claim 1) configuration information for configuration commands that apply to a design element (e.g., signal net A) of the circuit design (e.g., circuit design 116) and stores (step b) this applicable configuration information as configuration elements associated with design elements of claim 1).

Hunt does not process configuration information in this way; the configuration statements of Hunt are stored within HDL files that are converted to intermediate files with markers and then processed to create a database pertaining to Dials. See Hunt col. 18, line 61 through col. 19, line 42. Further, as noted above, the configuration specification statements of Hunt apply to 'Dial configuration elements' and do not apply to design elements of the digital design as recited by steps a) and b) of claim 1.

Step c) recites that, for at least one design element, each configuration element associated with the design element is retrieved. Hunt does not disclose or suggest that configuration elements are retrieved for at least one design element. The Dials of Hunt are not design elements of a circuit design and the configuration database of Hunt does not contain configuration information associated with design elements.

For at least these reasons, Hunt cannot anticipate claim 1. Reconsideration of claim 1 is respectfully requested.

Claims 2-6 depend from claim 1 and benefit from like argument. These claims also have additional features that patentably distinguish over Hunt. For example, claim 2 recites generating one or more data structures containing configuration elements and then storing the data structures with their associated design elements in a hierarchical model of the electronic circuit design. Hunt discloses a hierarchical model, but does not disclose generating one or more data structures containing configuration elements and then storing the data structures with their associated design elements within the hierarchical model.

Claim 3 recites traversing the hierarchical model and, for each design element, storing, in a database, each configuration element associated with the design element. Hunt stores Dial definition data structures in a database, but Hunt does not traverse a hierarchical model to store configuration elements associated with design elements in a database. As noted above, Hunt does not disclose or suggest storing configuration information associated with design elements of a circuit design within a hierarchical model, nor traversing the hierarchical model and storing, within a database, configuration elements associated with each design element.

Claim 4 recites specifying a design element to retrieve associated configuration elements. Hunt recites that HDL files containing configuration statements are compiled to obtain a simulation executable model and a simulation configuration database for a digital design; but Hunt does not disclose or suggest that configuration elements associated with a design element are retrieved from a database by specifying the design element. See Hunt col. 18, lines 57-61.

Claim 5 recites storing the identified configuration elements and associated design elements on a design element by design element basis in a database. As taught by paragraph [0030] of the specification, for example, configuration tool 122 traverses hierarchical model 140 to generate database 160, and, as shown in exemplary Database Record 1 of paragraph [0031], configuration information for design element signal net A is stored together to allow recall of configuration information based upon the design element. Hunt makes no such disclosure. As noted above, the configuration statements of Hunt relate only to Dials and not design elements of the circuit design.

Claim 6 recites the design element comprising an HLSN. As taught by paragraph [0004] of the specification, an HLSN is the unique signal name that identifies a collection of signal nets or hierarchical signal net pieces. Hunt makes no such disclosure. Further, Hunt make no disclosure of configuration items applying to signal nets of the circuit design. As noted above, the configuration statements of Hunt apply only to Dials, which are configuration entities. Hunt does disclose that Dials can be constructed hierarchically, but since Dials are not design elements of the digital design, their connectivity does not utilize signal nets or HLSNs.

For at least these reasons, Hunt cannot anticipate claims 2-6. Reconsideration of claims 2-6 is respectfully requested.

Amended claims 7 recites a system for processing configuration information, including:

a) means for identifying at least one configuration element from at least one configuration command;

b) means for associating the configuration element with one or more design elements of an electronic circuit design; and

c) means for retrieving each configuration element associated with at least one design element without further parsing of the configuration commands.

As argued above, Hunt does not identify configuration element, nor associate these configuration elements with design elements as recited by elements a) and b) of claim 7. The configuration specification statements of Hunt are not associated with design elements of the digital design; the Dials of Hunt are not design elements. Element c) recites that each configuration element associated with a design element is retrieved without further parsing of the configuration commands. Since Hunt does not disclose configuration elements associated with design elements, Hunt cannot retrieve configuration elements associated with design elements.

For at least these reasons, Hunt cannot anticipate claim 7. Reconsideration of claim 7 is respectfully requested.

Claims 8- 12 depend from claim 7 and benefit from like argument. These claims include features of claims 2-6, respectively, and therefore benefit from the arguments of claims 2-6 above.

Reconsideration of claims 8-12 is respectfully requested.

Claim 13 recites a software product with instructions, stored on computer-readable media, wherein the instructions, when executed by a computer, perform steps for processing configuration information, including:

a) instructions for identifying one or more configuration elements from one or more configuration commands;

b) instructions for associating the configuration elements with design elements of an electronic circuit design; and

c) instructions for retrieving, for at least one design element, each configuration element associated with the at least one design element and without further parsing of the configuration commands.

As argued above, Hunt does not identify configuration element, nor associate these configuration elements with design elements as recited by elements a) and b) of claim 13. Element c) recites that each configuration element associated with a design element be retrieved without further parsing of the configuration commands. Since Hunt does not disclose configuration elements associated with design elements, Hunt cannot retrieve configuration elements associated with design elements.

For at least these reasons, Hunt cannot anticipate claim 13. Reconsideration of claim 13 is respectfully requested.
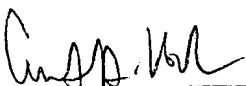
Claims 14- 18 depend from claim 13 and benefit from like argument. These claims include features of claims 2-6, respectively, and therefore benefit from the arguments presented above regarding claims 2-6.

Reconsideration of claims 14-18 is respectfully requested.

Applicants have addressed all issues raised in the Office Action dated March 24, 2006, and respectfully solicit a Notice of Allowance for claims 1-18. Applicants believe no fees are currently due, however, if any fee is deemed necessary in connection with this Amendment and Response, please charge Deposit Account No. 08-2025.

Respectfully submitted,

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By _____
Curtis Vock, Reg. No.: 38,356
LATHROP & GAGE, L.C.
4845 Pearl East Circle, Suite 300
Boulder, Colorado 80301
Tele: (720) 931-3011
Fax: (720) 931-3001